



Central Valley Regional Water Quality Control Board

3 December 2024

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APPROVAL OF THE KAWEAH BASIN WATER QUALITY ASSOCIATION'S SOURCE IDENTIFICATION STUDY PROPOSAL FOR ZINC, COPPER, AND DIURON

Thank you for your 30 September 2024 submittal of the proposed Source Identification Study (SIS Proposal) for the Kaweah Basin Water Quality Association. Based on staff's review, the SIS Proposal contains the minimum elements described in the Monitoring and Reporting Program for Waste Discharge Requirements General Order R5-2013-0120-09.

The SIS Proposal is approved. As recommended in the enclosed memorandum, please utilize the Management Plan Implementation Report (MPIR) surveys or an alternative method to obtain information from growers regarding historic management practices. This information will help to better evaluate irrigated agriculture as a potential source for the constituents of concern.

If you have any further questions regarding this letter or the enclosed memorandum, please contact Mathew Jian by phone at (559) 445-5567, or by email at Mathew.Jian@waterboards.ca.gov.

A handwritten signature in blue ink that reads "Christina Shupe".

For Patrick Pulupa
Executive Officer

Enclosure: Staff Review of Kaweah Basin Water Quality Association's
Source Identification Study Proposal for Zinc, Copper, and Diuron

Central Valley Regional Water Quality Control Board

TO: Eric Warren, PE
Senior Water Resource Control Engineer
IRRIGATED LANDS REGULATORY PROGRAM

FROM: Mathew Jian
Water Resource Control Engineer
IRRIGATED LANDS REGULATORY PROGRAM

DATE: 3 December 2024

**SUBJECT: REVIEW OF THE KAWEAH BASIN WATER QUALITY ASSOCIATION'S
SOURCE IDENTIFICATION STUDY PROPOSAL FOR ZINC, COPPER,
AND DIURON**

On 30 September 2024, the Kaweah Basin Water Quality Association (Coalition) submitted a Source Identification Study Proposal (SIS Proposal) to the Central Valley Water Board (Water Board). This memorandum provides pertinent background information, a summary of the SIS Proposal, and staff's comments and recommendations.

BACKGROUND

Waste Discharge Requirements General Order R5-2013-0120-09 requires the Coalition to submit a Surface Water Quality Management Plan (SQMP) for any monitoring constituents that have exceeded of a water quality trigger limit two or more times within a three-year period. Surface water monitoring conducted by the Coalition has triggered the development of a SQMP to address zinc at the Kaweah River and Cameron Creek monitoring sites, copper at the Stone Corral and Foothill Ditch monitoring sites, and diuron at the Stone Corral monitoring site. A comprehensive SQMP (CSQMP) was submitted on 24 April 2023 which proposed a Source Identification Study as an intermediate step in identifying contributing sources of zinc, copper, and diuron.

SUMMARY OF THE SOURCE IDENTIFICATION STUDY PROPOSAL APPROACH

Potential Sources of Constituents of Concern

Zinc

The Coalition stated that potential sources of zinc in Kaweah River and Cameron Creek can include, but may not limited to, irrigated agriculture, ongoing fluctuating drought

patterns, historic mining and ore processing, electroplating and metal finishing, battery manufacturing, and automotive industry.

Copper

The Coalition stated that potential sources of copper in Stone Corral and Foothill Ditch can include, but may not be limited to, irrigated agriculture, ongoing fluctuating drought patterns, historic mining and ore processing, electronics manufacturing, metal finishing manufacturing, outdated plumbing, and textile/leather tanning operations.

Diuron

The Coalition stated that potential sources of diuron in Stone Corral can include, but may not be limited to, irrigated agriculture, roadway and transportation corridor weed control, and household weed control.

Source Identification Study Approach

Irrigated Agricultural Sources

The Coalition developed Management Plan Implementation Report (MPIR) surveys (Appendix A of the CSQMP) that they intend to send to growers with parcels adjacent to the associated waterbodies. The MPIR survey will assess growers' use of zinc and copper-containing solutions, diuron, as well as irrigation, stormwater, and erosion control practices. The Coalition also intends to review and analyze pesticide use reports and compare member survey responses to the data. Lastly, the Coalition will review surface water quality monitoring data and will continue to conduct monthly surface water monitoring for the constituents of concern.

Drought, Decreased Water Levels, and Climate Change

For zinc and copper, the Coalition has stated that severe droughts due to climate change have decreased water levels throughout the region. The decreased water levels may potentially increase concentrations of zinc and copper in the waterways. The coalition intends to review precipitation data, flow variability data, and seasonal variability in water quality results.

Additional Considerations

The Coalition has stated that they may review additional data and research potential sources that may be contributing to the exceedances, if available. These sources may include historic mining data, metal finishing and electronics manufacturing data, non-agricultural pesticide usage, and other publicly available data.

Additional Monitoring

The Coalition intends to continue monthly monitoring in accordance with the approved Surface Water Monitoring Plan (SWMP). Depending on the responses the Coalition receives from the MPIR surveys and research conducted as detailed in the above sections, the Coalition may consider spot sampling in appropriate parcels adjacent to the waterways and other additional monitoring and sampling.

Schedule for Source Identification Study Proposal

Table 4 of the SIS Proposal outlines the general schedule of the SIS. The Coalition plans to complete the study and a summary report within 12 months of the approval of the SIS Proposal. Once initiated, the Coalition will also include updates on the SIS implementation progress in the Management Plan Annual Status Reports submitted to the Water Board annually.

MANGAGEMENT PLAN APPROACH

The CSQMP states that the Coalition intends to utilize the following objectives when implementing the CSQMP:

- 1) Identify potential source(s) of constituents that are causing water quality problems via a SIS;
- 2) Conduct grower outreach and education;
- 3) Continue surface water monitoring of affected waterbodies;
- 4) Review implementation of growers' management practice(s); and
- 5) Evaluate management practice effectiveness

STAFF COMMENTS AND RECOMMENDATIONS

Based on staff's review, the SIS Proposal satisfies the minimum requirements outlined in the Monitoring and Reporting Program (MRP) of the General Order. However, staff have some comments regarding the use of MPIR surveys.

Because many of the exceedances that triggered the development of management plans pre-dated the approval of the SWMP (some exceedances occurred as far back as 2015), the questions regarding current management practices presented in the proposed MPIR may not accurately reflect the conditions which led to past exceedances. Staff recommend the Coalition include additional questions regarding historic management practices (e.g., years that grower may have applied certain pesticides, past application practices, etc.) to better evaluate agriculture as a potential source for constituents of concern, and the mechanisms contributing to their transport.